

Gold King Mine Incident After Action Report

August 5, 2015 - October 31, 2015



COLORADO

Division of Homeland Security
& Emergency Management

Department of Public Safety

Handling Instructions

1. The title of this document is the *Gold King Mine Incident After Action Report*
2. The information gathered in this AAR/IP is unclassified.
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Executive Summary

The Gold King Mine disaster, which began August 5, 2015, at approximately 10:40 a.m. was a human-caused disaster that released an estimated three million gallons of heavy metals and acid mine drainage into the Cement Creek and the Upper Animas River drainage—beginning in San Juan County, Colorado and flowing through three counties, two cities, and two Tribes. The full impact to the communities, both environmentally and financially, is not yet known, but this event did highlight the complexities of coordinating with multiple local, tribal, State, and Federal agencies. This after action report (AAR) will identify successes, problems, and perfect-world solutions regarding how governments were notified and how they coordinated their responses to the incident so that we can continue to improve and better prepare our communities for other potential disasters.

A number of common themes were identified in this after action report, and it is worth noting that these observations are common across many of the events that face our state and nation every day. The following areas discussed below were the common themes that were identified through this process, and should be a main focus for consideration as each agency begins to build its improvement plan.

Notification

In just about every incident that we are involved in, there always seems to be some level of break down in the notification process. The Gold King incident was no different, and these challenges occurred at all levels of government. For the purpose of this after action, we will break these notifications down into the following three specific areas:

- Initial Notification
- Internal Notification
- External Notification

The initial notification was made to the correct regulatory authority, which in this case was the Colorado Department of Public Health and Environment (CDPHE) by the EPA. The spill report created by CDPHE was then released to stakeholders and forwarded to the downstream emergency managers by the Colorado Division of Homeland Security and Emergency Management (DHSEM) regional field manager. The areas that were identified as successes during this phase were the fact that there was a built-in, redundant notification process for emergency management, and that the notification was forwarded out quickly once the initial phone call to CDPHE could be made. A notable observation, highlighted through this process, was that the notification process was dependent on a single human and not standardized into a plan or procedure, in a few of the cases. A written and well-practiced procedure would have potentially reduced the chances of missing the initial notification. Further, adding the southwest Regional Emergency Planning Committee distribution list to CDPHE would have eliminated a single point of failure.

Internal notification, which included how each agency processed and shared the initial notification, was considered an area for improvement in many jurisdictions. Similar to initial notifications, a perfect-world solution would include implementing an internal notification process in a plan that would outline *how* information is shared. An area of concern is constantly being inundated with informational messages, and consequently, missing key information. Therefore, the plan may need to be multi-faceted to gain the

attention of policy makers and multi-agency coordination (MAC) groups during emergency situations.

Lastly, external notification was also identified as an area needing improvement. There was a consensus that multi-jurisdictional communication was occurring, but in the initial phases of the incident, the agricultural community was not in the loop. In this case, because the event impacted a whole river corridor, the processes in place were not sufficient to meet the needs of all of the users along the river.

Multi-Agency Coordination Group

We have experienced many large disasters in the State of Colorado in the past several years, and one commonality that has been repeatedly observed is that communities are most successful when they have already established working relationships with the various response and support agencies in their communities. In the Gold King incident, there were several mentions of exchanging business cards at the event and not being as coordinated as we could have been. For a MAC group to be successful, there needs to be a commitment from each jurisdiction's policy group to participate and commit resources. This is about relationships, planning, and building capability to manage and coordinate an event that could impact a community.

Public Information

Public information was at the forefront of concerns during this after action review. More specifically, many key observations primarily focused on the control of local public information and the function of the joint information center (JIC) at the unified command. Local and Tribal governments will need to decide which model would best serve the needs of their communities before developing, training, and exercising multi-jurisdictional JIC plans.

Conclusion

It is important to note that although much of the Gold King Mine incident after action review focused on areas of improvement, many successes also warrant acknowledgement. The importance of establishing a culture of preparedness in our communities cannot be overstated and requires the commitment of not just our emergency managers and first responders, but also our organization's policy groups and executives.

Section 1: Event Overview

Event Name: Gold King Mine Incident

Type of Event: Mine Blowout

Event Start Date: August 5, 2015

Event End Date: October 31, 2015

Duration: Official number of days in response—88

Location: Incident Origin: San Juan County in Cement Creek/Animas River then traveled through the Town of Silverton, La Plata County, City of Durango, Southern Ute Indian Tribe, and Ute Mountain Ute Indian Tribe

Capabilities:

- Planning
- Public Information and Warning
- Access Control and Identity Verification
- Community Resilience
- Long-Term Vulnerability Reduction
- Environmental Response / Health and Safety
- Situational Assessment
- Operational Coordination

Participating Organizations:

- San Juan County
- San Juan Basin Health
- Town of Silverton
- Colorado Division of Mine Reclamation and Safety
- Colorado Division of Homeland Security and Emergency Management
- Colorado Department of Public Health and Environment
- La Plata County
- City of Durango
- Southern Ute Indian Tribe
- Ute Mountain Ute Indian Tribe
- Colorado Division of Parks and Wildlife

What did happen during the incident?

San Juan County and Division of Mine Reclamation and Safety (DMRS)

Initial Process:

- Bruce (DRMS) and Allen (EPA contractor) called the State spill line at approximately 12:40.
- Sheriff Bruce Conrad was on an incidental traffic stop by County Road 110 and saw a wall of water; sent out an all-agency page to gather everyone together. Noticed it wasn't going to breach the bank.
 - No official notification sent out because it was unclear what was happening.
 - Notified by ~ 3:30
- Protocol is to call CDPHE, which was followed (at 12:40 p.m.—sent out half an hour later).
- Calling the watershed group control agency was a protocol that was not part of the plan, but was completed anyway.
- Second call was to the Division of Natural Resources (DNR), although this was not an official plan either.
- Communications problems at the work site occurred because a satellite phone went down when the vehicle was flooded. This created a disconnect between on- and off-site personnel. EPA did not contact the State; the State had to contact EPA.
- Personnel drove up for an initial site assessment. By this point, CDPHE sent out an information-only notification. No guidance was included on how to proceed. No flooding was imminent, county roads were damaged. No reports of injuries.
- Took photos of Cement Creek and confluence of Cement Creek and Animas. Color of the water was "unnatural."
- By 5:55, called Region VII EPA representative.

Issues:

- All the EMs were new and did not know each other. They were exchanging business cards at the event.
- EPA mining communications were subpar. EPA did not call 9-1-1.
 - Any organization that is doing a large-scale project needs to notify the impacted town.
- Roles and responsibilities: Need to know what to do with the spill report. Need better coordination about who should take action upstream and downstream.

Successes:

- The process wasn't completely foreign. The Chief County Commissioner had some training.
- County leadership was working on its EOP at the time and had an understanding of general procedures.
- EPA connected with the local EM to figure out spill response procedures in the future.
- San Juan County Incident Command Post was stood up

La Plata County

Initial Process:

- Received notice from RFM by 1:30 p.m.
- At 4 p.m., received images of the damage in a remote canyon.
- Started to notify stakeholders. First talked to irrigators where water comes out of the canyon. Covered headwaters area very thoroughly—but only information based. No formal process was used.
- Once it was clear that it was a severe incident, began reaching out to people outside of the remote canyon.
- By 8 p.m., began to see the full picture.
- Calculated the flow rate. Predicted that water would reach private land by 6 a.m.
- Began notifying outside partners and states (i.e., New Mexico)
- Monitored conditions. Calculated when it would reach Durango. Predicted it would hit a few hours earlier than it did (hit by 11 p.m.).

EM Process:

- Internal process in place to contact internal agencies and agriculture stakeholders.
 - Relationships were helpful, but most of this was a routine EM process that worked.
- Used EOP to try to address the process. Could not apply the mine spill situation to any planned responses.
- Learned they could close the river for recreational activity but legal authority was limited.

Issues:

- Unclear situation assessment hindered response
- How do State agencies coordinate who is contacted depending on the event (e.g., drinking water, ag irrigation water, recreation/private sector)?
- Did not know who to send the message to in the agriculture community and had a delayed response to the incident, as a result.
- Did not have effective public health statutes that allowed La Plata to close the river.
 - There was a gap between CDPHE and the local health department. CDPHE's more aggressive public information campaigns could have made the river closure more effective
- Local public health did not and still does not have a clear understanding of the public health impact. (Response was based on the aesthetics of the disaster.)
- Incident command: Need assistance in handling an incident where the offender is also the emergency responder. Who needs to take lead?
 - County did not establish its own incident command or EOC
 - The County let EPA take the lead during the incident; in hindsight, they would like to see CDPHE take a more prominent role—even though they report to EPA under a federal statute. It should always start at the local incident jurisdiction and expand to state and federal.
- Dignitary protocol: Needed protocols in terms of how to handle dignitaries who want a tour but are not part of the actual response or recovery activities

- The unified incident command system (ICS) did not have *one* Incident Commander that briefed the all command staff.
- Did not have a JIC or JIS for quite a while
- Locals relinquished IC and suspended their systems instead of holding onto the incident.

Successes:

- A MAC group meeting was used to assess public health the morning after the event
- Utilized a Unified Incident Command System

Southern Ute Indian Tribe

Initial Process:

- 1:53 p.m. notice received
- 2:23 p.m. EM contacted
- Tribal administration was notified
- Water quality control began a situation assessment
- NM notified by State hotline

Issues:

- Had to set up its own EOC and public information

Successes:

- The Southern Ute Indian Tribe utilized strong information sharing tactics
- Was willing to create a Unified Command
- Notified the downstream stakeholders

City of Durango

Process:

- Did not establish an EOC or ICP
- Did work in a Unified Command

Issues:

- Need to improve its use of ICS
- Need to coordinate declarations with the County

Successes:

- The City's Policy Group participated with UC and the La Plata County Policy Group

Ute Mountain Ute Tribe

Process:

- Received an informal notice
- Forwarded it on to the water resources department

- Had uncertainty about how long it would take for the water to reach the Tribe
- Calculated the flow rate
- Notified private sector, tourism, and the agriculture community
- The Navajo Tribe put up caution tape and signs before the Ute Mountain Ute Tribe had the opportunity

Issues:

- Needed a notification call sooner along with a better call-down list
- Public information was slow and convoluted by EPA's involvement
- Cultural sensitivity issues needed to be addressed
- Did not receive adequate information to proceed with a response
- Had redundancy issues: not enough back-up EM personnel were available

Success:

- Inter-jurisdictional communication was strong

Colorado Department of Public Health and Environment

Issues:

- Communication sharing
- Transition of the JIC
 - Need to figure out how to effectively rotate people
 - Need better continuity of operations throughout the incident
- When CDPHE took the lead, it left the PIO protocol
- Unclear whose decision it should have been to close the river (e.g., Sheriff? Local health department? CDPHE?)
- Need data outputs that are geared toward policy makers instead of scientists. Simplify the messaging based on the audience.

Successes:

- Review of drinking water data
 - Other than private wells, this had not been done before
- CDPHE decided to take a leadership role to offset EPA's shortcomings

Department of Natural Resources – Parks and Wildlife

Issues:

- They were short-staffed

Successes:

- Able to focus on ground-level response
- Good coordination between CDPHE and Parks and Wildlife

Department of Agriculture

Issues:

- Were not involved from the beginning

Successes:

- Had good local relationships with the agriculture community
- Able to quickly communicate with the agriculture stakeholders

Colorado Division of Homeland Security and Emergency Management

Issues:

- How do we coordinate, at the Cabinet level, on situational awareness and information sharing up and down the chain?
- There was a disconnect between local and State government
- ESF activation may not be realized by the respective agency leadership and representatives
- High turnover can hinder information sharing with the correct people
- Cannot leave responsibility solely with the Federal agency; The State has to remain in charge and act as a liaison
- State requires activation message confirmation from respective agency ESF representatives
- Better understand roles, definitions and responsibilities when acting in the capacity of a lead state agency (CDPHE)
- State agency PIOs were not engaged with the Incident Joint Information Center early on and had difficulty coordinating messaging

Department of Local Affairs – Durango

Issues:

- Difficulty determining unmet needs of the locals until later in the incident

Section 2: Improvement Plan

Recommendations:

- Continue to build on the counties' local emergency planning groups and strive to build a whole community planning approach. This would include identifying non-traditional community stakeholders, such as private industry and unofficial community leaders who can assist in community coordination and planning.
- Create a process that would require contractors to conduct a site visit and submit an emergency notification plan to the local EM prior to work that has the potential to impact the watershed or community as a whole.
- Develop a coordinated multi-jurisdictional watershed notification plan for events that could impact downstream water users and/or public safety.
- Develop a city/county multi-agency coordination group composed of both traditional and non-traditional community stakeholders.
- Take a lead role in early incident responses, regardless of cause, and integrate possible outside agencies into the incident management structure. This would include public information management,
- Activate an emergency operation center to maintain good situational awareness with the multi-agency coordination group and policy makers.
- Review and update public information plans and procedures to better fit the desire of the city/county/tribal leadership (e.g. joint information center versus joint information system). Additional planning, training, and exercising will be necessary to coordinate public information plans that overlap jurisdictional authorities.
- Review and compare emergency operations plans with local health departments to identify gaps in planning and/or authorities that need to be created or updated.
- Train with city/county/tribal leadership and departments on roles and responsibilities during an emergency.
- Conduct frequent exercises and drills to develop familiarity with emergency plans, roles, and responsibilities.
- Identify the various notification processes along the watershed and ensure that they are triggered by a plan or process that is not contingent on a single person.
- State agency PIOs need to become part of the Joint Information System. Messaging needs to remain coordinated between the Incident and the departments.

Recommended Trainings:

- G-191 Emergency Operations and Incident Management Team Interface
- G-235 Whole Community Emergency Planning
- G-250.7 Rapid Needs Assessment
- G-402 Emergency Management for Elected and Appointed Officials
- G-775 Emergency Operation Center Operations
- G-291 Advanced Public Information Officer

List of Attendees

Ingrid	Barrier	Attorney General's Office - CDPS
Amber	Blake	Durango JIC Manager
Kirstin	Brown	CO Division of Reclamation and Mining Safety
Ken	Charles	CO Department of Local Affairs
Scott	Clow	Ute Mountain Ute Tribe
Trevor	Denney	CO Division of Homeland Security and Emergency Management
Jim	Donovan	San Juan County, CO Emergency Manager
Sherri	Dugdale	Assistant City Manager, City of Durango
Paul	Eller	CO Division of Homeland Security and Emergency Management
Kathi	Gurule	Emergency Manager, Southern Ute Indian Tribe
Stan	Hilkey	Executive Director, CDPS
Terry	Hoecker	Emergency Manager, City of Durango
Bruce	Holloman	CO Division of Homeland Security and Emergency Management
Ernest	House	Executive Director, Colorado Commission of Indian Affairs
Tom	Johnson	Environmental Director, Southern Ute Indian Tribe
Liane	Jollon	Executive Director, San Juan Basin Health District
Becky	Joyce	San Juan County Public Health
Casey	Kay	CO Department of Public Health and Environment
Joe	Kerby	County Manager, La Plata County
Kevin	Klein	Director, CO Division of Homeland Security and Emergency Management
Butch	Knowlton	Emergency Manager, La Plata County
Joe	Lewandowski	Colorado Parks and Wildlife

Kathleen Lyon	La Plata County Attorney's Office
Claire Macpherson	San Juan Basin Health Department, Emergency Preparedness and Response Regional Staff
Thomas McNamara	Emergency Management, La Plata County
Flannery O'Neil	San Juan Basin Health Department, Emergency Preparedness and Response Regional Staff
David Osborn	CO Division of Homeland Security and Emergency Management
Drew Petersen	CO Division of Homeland Security and Emergency Management
Pat Pfalzgraft	CO Department of Public Health and Environment
Sheryl Rogers	La Plata County Attorney
Nicole Rowan	CO Department of Public Health and Environment – Water Quality Control Division
Sean Smith	La Plata County Sheriff
Joanne Spina	Assistant County Manager, La Plata County
Greg Stasinos	CO Department of Public Health and Environment
Jena Thompson	CO Division of Homeland Security and Emergency Management
Matt Thorpe	CO Department of Natural Resources - Colorado Parks and Wildlife
Jeff Titus	CO Department of Natural Resources - Water Commissioner
William Tookey	County Manager, San Juan County
John Trocheck	Emergency Manager, Ute Mountain Ute Tribe
Meghan Trubee	CO Department of Public Health and Environment – Water Quality Control Division
Chris Wiseman	Deputy Commissioner, CO Department of Agriculture